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ABSTRACT

The effects of initiatives taken by 43 private liberal arts colleges in order to maintain enrollment were assessed in 1983 as part of a 10-year study. Research objectives were to identify: institutions where officials engaged in early planning (1978 or before) to moderate enrollment decline; key strategies employed; key operating ratios resulting from these strategies; outcomes of the strategies; and correlates of success among the operating ratios employed. Operating ratios referred to the ratios of students to personnel and programs (e.g., students to counselors, students to programs). Presidents of the colleges responded to key questions about their plans and rated the emphasis they were placing on 22 commonly used enrollment initiatives. Enrollment indexes were developed for each institution using 1978 as a base year and 1983 as the end-of-period year. For the most part, the colleges planned to offer more programs, more internships, and more high demand programs (e.g., business, computer science, health science). They also planned to strengthen various student services, and to reach out more effectively to older students, returning students, and minority students. High ratios of students to programs and students to career planning and placement officers emerged as significant correlates of success in enrollment maintenance. (SW)

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Correlates of Enrollment Maintenance in Liberal Arts Colleges

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Enrollment maintenance will be a serious problem among colleges and universities for the next few years. It will also be a problem about which more can be known. Although much has been written about impending declines in enrollment (Western Interstate Commission on Higher Education, 1979; Brenneman, 1982; Mayhew, 1979; Keller, 1983), almost no research has been completed on efforts to maintain enrollment or to moderate its decline to an extent. Nothing on exemplars in this work, so to speak.

To learn more about this problem, a Ten Year Study was launched in 1978 with an intent of identifying colleges and universities where officials had begun to plan to maintain enrollment in the face of demographic shifts. Or to moderate decline to the best of their ability. Also, to identify initiatives employed to accomplish this, to measure the successes and failures of the efforts of the colleges and to identify correlates of such. Liberal Arts II colleges, regional state universities and community colleges were selected for study. The first institutions listed have been identified as being most at risk of enrollment decline in the years ahead while the latter schools are widely regarded as being among those least at risk. Flagship state universities, private research universities and Liberal Arts I colleges (highly selective colleges) are also regarded as least at risk (Carnegie Council on Policy Studies in Higher Education, 1980).

The present study looked at Liberal Arts II colleges at the mid-point of the Ten Year Study in an attempt to measure the success of their initiatives to maintain enrollment and to identify correlates of this success. Sampling methods for the study are described in some detail as are plans and initiatives for enrollment maintenance efforts.

Research Objectives

The specific objectives for the study follow. Note that the study was limited to private Liberal Arts II colleges. Most such colleges are private and almost all at risk are private.

Operating ratios referred to in the objectives are ratios of students to personnel and programs, e.g., students to counselors, students to programs. These ratios are manifestations of strategy to

a great extent, e. g., colleges attempting to provide more career options will likely have more business and computer science programs and lower ratios of students to these programs. The opposite would obtain for colleges opting for a traditional liberal arts college strategy, i.e., fewer programs and thus a higher ratio of students to such programs. The objectives were:

1. To identify private Liberal Arts II colleges where officials were engaged in early planning (1978 or before) to moderate enrollment decline.

2. To identify key strategies these institutions planned to employ in these efforts.

3. To identify key operating ratios manifest as a result of these strategies.

4. To identify successes and failures among the colleges in maintaining enrollment.

5. To identify correlates of success, if any, among the operating ratios employed by the institutions.

Other Research

As noted above, little research has been completed on enrollment maintenance among colleges and universities. The phenomenon of enrollment loss among schools in America is too recent and too new, it seems. Andrew (1980) completed a study of colleges which closed from lack of funds and Chaffee et al (1981) completed a study of colleges on the brink of bankruptcy but which managed to recover a certain measure of viability. Neither focused on enrollment maintenance as central.

As noted, too, an enormous literature is developing on the impending decline. Some to the point of hysteria. Two studies have been published by this investigator which reported on plans and initiatives of the total sample in the Ten Year Study five years ago (Brazziel, 1978) and on the difficulties reported by some presidents in implementing such (Brazziel, In Press). The studies did not approach hysteria.

Procedures

Procedures employed for generating the sample and analyzing the data are discussed below. As noted above, the sample for the present study is a sub-sample of a Ten Year Study involving three types of institutions. Also noted above is the fact that this is a mid-point analysis for the sample which was generated in 1978. Baseline data on plans and initiatives were also collected at that time.

1. In 1978, twenty-five officials of national organizations and government agencies along with 15 college planning officers and five professors were asked to nominate colleges where officials had become aware of the looming problem of enrollment maintenance due to birthrate shifts and were taking steps to moderate this decline when the problem surfaced.

2. Presidents of the 50 most mentioned private Liberal Arts II colleges were asked to describe their enrollment maintenance strategy in a letter in which they responded to key questions about their plans. They were also asked to rate the emphasis they were placing on 22 initiatives commonly used in enrollment maintenance. Forty-six presidents responded.

3. The presidents also provided data on opening fall enrollment for 1978 as expressed in FTE. These data were verified by cross-checks with HEGIS tapes on opening fall enrollment for 1978.

4. In 1983, the presidents were asked to provide data on opening fall enrollment for that year. Also expressed in FTE. Forty-three responded and these data were verified by cross-checks with HEGIS tapes on opening fall enrollment for 1983.

5. The presidents were also asked to provide data on key operating ratios representative of and central to the strategies and initiatives described by the group in 1978. These included ratios of students to programs and personnel in the following areas: admissions, counseling, financial aid, career counseling and placement, faculty, total academic programs and high demand career programs. Sub-ratios for the latter were also provded, e.g., busniess, computer science and health science programs.

6. Enrollment indexes were developed for each institution using 1978 as a base year and 1983 as the end-of-period year.

7. Enrollment indexes were developed for a random sample of L.A. II colleges drawn from HEGIS data banks. The same time frame was used here. This sample was used as a comparison group in exercises designed to identify the degree of success of the efforts of the exemplar group.

8. Enrollment indexes for the two groups were tested for significance of differences by an application of one-way analysis of variance to the enrollment indexes for the time frame.

9. Enrollment indexes for the exemplar group were regressed on the operating ratios for this group to identify significant correlates of enrollment maintenance among these. The notion here was that the restricted range among the exemplars would so decrease the probability of significance among the ratios that any which did achieve such could be regarded as highly valuable

in efforts by a larger community of such colleges to mount moderation of decline efforts.

10. Theme analyses were made of the presidents' descriptions of their plans for decline moderation and the corresponding operating ratios they were using to try to bring this about. The intent here was to develop qualitative correlates of enrollment maintenance.

11. Site visits were made to three campuses to corroborate the themes formulated by these procedures.

Findings

For the most part, the colleges planned to offer more programs, more internships, and more high demand programs, e.g., business, computer science, health science. They also planned to strengthen various student services, in the service of reduced attrition, and to reach out more effectively to older students, returning students and minority students. See Table 1 for Likert rankings of highly-rated plans and initiatives.

It can be noted that addition or expansion of career programs ranked high among the initiatives as did efforts to strengthen student services and, hopefully, lower attrition. It can also be noted that the new thrusts in marketing, i.e., segmentation and positioning achieved modest rankings. Recall that the Likert responses were made in 1978 when these techniques had just come on the scene. A five-point Likert scale was used here. Recall, too, that 1978 was a year when student concerns about job placement upon graduation became apparent on liberal arts campuses. See Appendix Table 1 for enrollment initiatives and plans with lower ratings.

Table 1

Rankings of Enrollment Maintenance Initiatives

N = 46

Initiative	Mean Rank	SD
Establish/Expand Internship Opportunities	4.37	.45
Establish New Programs	4.35	.53
Establish/Expand Business Programs	4.31	1.38
Establish/Expand Health Science Programs	4.15	1.99

Table 1 Continued

Establish/Expand Computer Science Programs	4.15	2.30
Expand Admissions Staff	4.01	1.87
Expand Financial Aid Staff	3.85	1.56
Recruit More Older Students	3.78	1.86
Employ More Market Segmentation	3.51	2.30
Recruit More Minority Students	3.40	2.56
Employ More Positioning Techniques	3.02	2.86

The plans of the schools were reflected in key operating ratios. Personnel and programs to carry out their plans were quite apparent. See Table 2 for key operating ratios employed by the schools in 1983. It can be noted that the schools live up to their missions as liberal art colleges with only 14.32 FTE students per faculty member. The ratio of students to programs was also handsome (38:52) but one wonders if cost effectiveness will become a problem on some campuses. Health sciences programs were more prevalent, it seems, than either business or computer science with only 321 students per program. Almost every school had a health science program and many had two or more.

Table 2

Operating Ratios of Institutions as Reported for Fall Term, 1983

N = 43

Ratio	Mean	SD
Students to Faculty	14.32	4.58
Students to Programs	38.52	15.52
Students to Business Programs	538.21	258.36
Students to Health Science Programs	321.43	155.67
Students to Computer Science Programs	645.67	325.48

Table 2 Continued

Students to Admissions Officers	602.25	235.45
Students to Career Plan/Placement Officers	625.35	502.39
Students to Fulltime Counselors	600.05	325.25
Students to Financial Aid Officers	603.57	232.89

Note: Ratios based on FTE students and FTE faculty.

The schools' strategies were working well. The mean enrollment index was 97.53. The index for the comparison group was 89.37. The difference was significant (.05 level ANOVA) See Appendix Table 2.

High ratios of students to programs and students to career planning and placement officers emerged as significant correlates of success in enrollment maintenance. Total variance explained by the ratios was .33. See Table 3.

Table 3

Regression Analysis: Enrollment Index on Operating Ratios

N = 43

Operating Ratio	Multiple R	R Square	Ad R Square	Sig F
Students to Programs	0.51170	0.26183	0.23877	0.0092
Students to Plan/Pl Off	0.60250	0.36310	0.33210	0.0000

Zero order correlations of the variables in the regression equation are listed below:

Ratios of Students to Programs - 0.55370

Ratios of Students to Plan/Pl Off - 0.45440

The finding of the importance of high ratios of students to programs in enrollment maintenance supports the contentions of Mayhew et al who urge restraint in program expansion to attract and

retain students. More is not necessarily better according to these analysts and this finding Mayhew (1982). Moderate programs expansion coupled with attention to careful marketing practices and cultivation of image is probably the key.

The finding also jibes with basic data on student choice as revealed in the annual CIRP surveys. Freshmen indicate over 100 fields for planned majors but over half indicate plans to major in only 25-30 fields (Astin 1982).

The finding might ease concern among officials of schools where cost effective constraints preclude the operation of more than 25-30 programs. The average college in the sample enrolled 1222 students and offered 29 programs. The top half enrolled 1286 students and offered 25 programs.

The emergence of high ratios of students to career planning and placment officers as a correlate is probably an indication of some difficulty at colleges attempting to attract and retain students by offering more career programs. Added career planning officers usually attend such.

Themes of the plans of the colleges reflected the determination to offer a set of attractive programs on an attractive well-groomed campus with an excellent and caring faculty and staff. These themes emerged from analysis of the plans as reflected in the letters of the presidents and they were borne out in interviews on site visits to three colleges in the sample. One president, for example, was raising his allocations for plant maintenance by 25 percent at a time when others were deferring plant maintenance. His reasoning: Students are attracted to an attractive campus and repelled by shabbiness and disrepair. Many had improved the inservice training programs for staff: clerks, cashiers et al, who handle students. The idea: To impress upon them the importance of maintaining a pleasant and hospitable environment in every nook and cranny on campus.

Further Research

Again, this study is part of a Ten Year Study. It will end in 1988. A second look at operating ratios and enrollment indexes of the exemplars and the comparison group will be made in 1988. Analysis by region will also be made at that time and experimental analysis will be attempted to test time series data on business cycles as correlates.

Studies are also underway with the sub-samples of community colleges and regional state universities. The designs are identical to the present study and will allow for comparisons of correlates of enrollment maintenanace among the three sub-samples. Hopefully, something will be added to the knowledge base on enrollment maintenance.

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APPENDIX TABLES

Appendix Table 1

Added Ratings of Enrollment Maintenance Initiatives

Initiative	Rating	SD
Expand High School Contacts	2.99	1.85
Cultivate Alumni Student Sources	2.99	1.56
Conduct Market Studies and Surveys	2.98	1.39
Initiate/Expand Direct Mail Contacts	2.83	1.43
Expand Advertising: Print Media	2.85	2.31
Expand Advertising: Electronic Media	2.73	2.53
Offer More Scholarships	2.73	2.21
Involve More Parents in Recruitment	2.50	2.30
Involve More Faculty in Recruitment	1.53	.73
Change the Mission of the College	0.00	0.00
Retain a Recruitment Firm	0.00	0.00

Appendix Table 2

Analysis of Variance: Exemplar, Control Colleges
x
Enrollment Index

Colleges	N	Mean Index	SD
Exemplars	43	97.53	7.58
Control	50	89.37	17.51
Total	93	91.85	10.35

Variance Source Table

Source	DF	SS	MS	F*
Between Groups	1	3721.38	3721.38	19.45
Within Groups	91	17441.27	191.66	
Total	92			

*Significant at .05 level

Appendix Table 3

Selected Carnegie Classifications

Classification	Number of Institutions
Research University I	52
Research University II	40
Liberal Arts I	146
Liberal Arts II	573
Community Colleges	921

Sources Carnegie Commission on Higher Education, CLASSIFICATIONS OF INSTIUTIONS OF HIGHER EDUCATION, 1978.
U.S. Department of Education, DIRECTORY OF HIGHER EDUCATION INSTITUTIONS, 1983.

Appendix Table 4

Ranges: Enrollment and Enrollment Indexes

Group/Variable	Range
Exemplar Enrollment: 1983	350 - 2773
Comparison Enrollment: 1983	483 - 2565
Exemplar FTE Enrollment Index: 1978-83	69 - 115
Comparison FTE Enrollment Index: 1978-83	63 - 106